California Journal of Educational Research

6

1955

8955.4-1

The Editors Say:

A Responsibility for California's Educational Researchers

How to get the results of educational research into the hands of those actively engaged in carrying on the educational activities of the schools, has always been one of the major problems facing educators. In a state as large and as diversified as California this general problem is complicated and rendered more acute by the fact that one part of the State often does not know what another part is doing. Also, research findings validly obtained in one part of the State may not be applicable under conditions holding in another part. What can be done to meet the problems? How can educational research in California be coordinated?

The California Advisory Council on Educational Research serves as a clearing house among its members and the groups directly represented by them; but more has been done. The Research Department of the California Teachers Association publishes annual Bulletins telling of the research projects being carried on by district and county school staffs. The **California Journal of Educational Research** has published yearly reports on the theses and dissertations in education that have been completed in the colleges and universities of the State. All of this represents a tremendous advance over conditions of a few years ago. But more remains to be done. The Journal is still not reaching enough schools in the State, and there is need for an effective State-wide association of educational researchers. The time appears to be at hand for something significant to be done about both of these things.

There is an organization known as the California Educational Research Association which is primarily a Northern California society and there is an Educational Research and Guidance Association which is active in Southern California. In its invitations for its annual meetings to be held next March 18 and 19 at Sonoma Mission Inn, the first of these organizations has expressed the hope that participation may be State-wide. The Journal is in no position to advocate that the CERA should become the group serving all the State. But its name does imply coverage of all of California and it is to be hoped that its efforts to secure wider participation in its meetings will receive strong support from the southern part of the State.

The best way to form an effective educational research organization covering all of California is something for every research worker to concern himself with. Perhaps the two existing sectional groups should be amalgamated under the name of one of them, or under a new name. Perhaps an entirely new society should be created. Whatever the best answer is, an answer of some kind would seem better than indefinite delay. In fact, action of some kind would seem to be a professional responsibility of California's educational research workers.

(Continued on page 25)

Can the Mental Abilities of the Cerebral Palsied Be Measured?

ELIAS KATZ

Administrators and teachers who are responsible for the planning of educational programs for cerebral palsied and other children with extreme physical disabilities, are handicapped by the absence of a reliable instrument for measuring their intelligence. Many of the individual test items at the lower level of the Binet scale as well as other recognized tests of intelligence require the manipulation of small objects (beads, puzzles, etc.) or fine muscular coordination such as is required in pointing to a small design or object. Failure to pass such tests might be due to physiological rather than intellectual limitations.

Since educational achievement is closely related to mental alertness, the author has sought means of measuring intellectual traits and characteristics through re-designing some of the tests of the Stanford-Binet scale. This article deals with some of the factors involved in the modification of test items previously standardized on children who had no physical impairment.

In the course of investigations aimed at developing modifications of available psychological tests for use with cerebral palsied children, an analysis was made of the content of test items of the Stanford-Binet Intelligence Scale, Form L, Years II through VI, inclusive (2). It was found that many of the test items could be grouped according to common characteristics, such as the abilities required for completion of the task involved in the test item (pointing, bead-stringing, etc.), or being the same test at successive levels of difficulty—e.g., Picture Vocabulary test at the II, II-6, III, III-6, IV, and VI Year mental age levels.

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The material for this article was obtained from the Cerebral Palsy Program and grateful acknowledgement is made for the interest and cooperation of Dr. Peter Cohen, Associate Professor of Pediatrics, and Supervisor of the Cerebral Palsy Program; to Dr. Olga Bridgman, Professor of Psychology and Pediatrics; and to the writer's colleagues in the Cerebral Palsy Program and at the Northern California Residence School for Cerebral Palsied Children.

Six groups of related test items were identified. The name and classification of the test items are presented in Tables I and II.

"Pointing" test items were those requiring the child to point to an object, a picture, or a part of a picture in response to the examiner's question. Test items in this group were L,II,2[1]; L,II,3; L,II-6,1; L,II-6,2; L,III,4; L,III-6,3; L,III-6,5; L,IV,4; L,IV,5; L,IV-6,1; L,IV-6,3; L,VI,3[2]; L,VI,5.

"Picture Vocabulary" test items were those requiring the child to name an object a picture, or part of a picture. Test items in this group were L,II,5; L,II-6,3; L,II-6,4; L,III,2; L,III-6,2; L,III-6,4; L,IV,1; L,VI,3[3].

TABLE I

Test Items of the Stanford-Binet Intelligence Scale, Form L, Years II Through VI, Classified According to Common Characteristics

Item No.	Item	Classification	Abbreviation
L,II,1	Three-hole form board		
L,II,2	Identifying objects by name	Pointing	P
L,II,3	Identifying parts of the body	Pointing	P
L,II,4	Block building: tower		
L,II,5	Picture vocabulary	Picture Vocabulary	P.V.
L,II,6	Word combinations		
L,II-6,1	Identifying objects by use	Pointing	P
L,II-6,2	Identifying parts of the body	Pointing	P
L,II-6,3	Naming objects	Picture Vocabulary	P.V.
L,II-6,4	Picture vocabulary	Picture Vocabulary	P.V.
L,II-6,5	Repeating two digits	Memory	Mem.
L,II-6,6	Three-hole form board: rotated		
L,III,1	Stringing beads	Bead Stringing	B.S.
L,III,2	Picture vocabulary	Picture Vocabulary	P.V.
L,III,3	Block building: bridge		
L,III,4	Picture memories	Pointing	P
L,III,5	Copying a circle	Drawing	D
L,III,6	Repeating three digits	Memory	Mem.

[1] "L,II,2" indicates that this is test 2 at the mental age of Year II, Form L, Stanford-Binet Intelligence Scale (2).

[2] Although the directions for scoring L,VI,3 state (2, p.223), ". . . The missing part must be named, or described verbally. Pointing is not enough . . ." it was felt that this test item could be classified either in the group of "Pointing" test items or in the group of "Picture Vocabulary" test items.

[3] See footnote 2.

TABLE I
(Continued)

L,III-6,1	Obeying simple commands		
L,III-6,2	Picture vocabulary	Picture Vocabulary	P.V.
L,III-6,3	Comparison of sticks	Pointing	P
L,III-6,4	Response to pictures I	Picture Vocabulary	P.V.
L,III-6,5	Identifying objects by use	Pointing	P
L,III-6,6	Comprehension I		
L,IV,1	Picture vocabulary	Picture Vocabulary	P.V.
L,IV,2	Naming objects from memory	Memory	Mem.
L,IV,3	Picture completion: man	Drawing	D
L,IV,4	Pictorial identification	Pointing	P
L,IV,5	Discrimination of forms	Pointing	P
L,IV,6	Comprehension II		
L,IV-6,1	Aesthetic comparison	Pointing	P
L,IV-6,2	Repeating four digits	Memory	Mem.
L,IV-6,3	Pictorial likenesses and differences	Pointing	P
L,IV-6,4	Materials		
L,IV-6,5	Three commissions		
L,IV-6,6	Opposite analogies I		
L,V,1	Picture completion: man	Drawing	D
L,V,2	Paper folding: triangle		
L,V,3	Definitions		
L,V,4	Copying a square	Drawing	D
L,V,5	Memory for sentences II	Memory	Mem.
L,V,6	Counting four objects	Number	No.
L,VI,1	Vocabulary		
L,VI,2	Copying a bead chain from memory I	Bead Stringing	B.S.
L,VI,3	Mutilated pictures	Pointing, or, Picture Vocabulary	P, or, P.V.
L,VI,4	Number concepts	Number	No.
L,VI,5	Pictorial likenesses and differences	Pointing	P
L,VI,6	Maze tracing	Drawing	D

"Number" test items were those requiring the child to show evidence of ability to demonstrate some number concept. Test items in this group were L,V,6; L,VI,4.

TABLE II

Test Items of the Stanford-Binet Intelligence Scale, Form L, Years II Through VI, Classified According to Common Characteristics

L,VI,1 Vocabulary	L,VI,2 Copying a bead chain from memory I B.S.[a]	L,VI,3 Mutilated pictures P[b], or P.V.[c]	L,VI,4 Number concepts No.[d]	L,VI,5 Pictorial likenesses and differences P	L,VI,6 Maze Tracing D[e]
L,V,1 Picture completion: man D	L,V,2 Paper folding: triangle	L,V,3 Definitions	L,V,4 Copying a square D	L,V,5 Memory for sentences II Mem.[f]	L,V,6 Counting four objects No.
L,IV-6,1 Aesthetic comparison P	L,IV-6,2 Repeating four digits Mem.	L,IV-6,3 Pictorial likenesses and differences P	L, IV-6,4 Materials	L,IV-6,5 Three commissions	L,IV-6,6 Opposite analogies I
L,IV,1 Picture vocabulary P.V.	L,IV,2 Naming objects from memory Mem.	L,IV,3 Picture completion: man D	L,IV,4 Pictorial identification P	L,IV,5 Discrimination of forms P	L,IV,6 Comprehension II
L,III-6,1 Obeying simple commands	L,III-6,2 Picture vocabulary P,V.	L,III-6,3 Comparison of sticks P	L,III-6,4 Response to pictures I P.V.	L,III-6,5 Identifying objects by use P	L,III-6,6 Comprehension I
L,III,1 Stringing beads B.S.	L,III,2 Picture vocabulary P.V.	L,III,3 Block building: bridge	L,III,4 Picture memories P	L,III,5 Copying a circle D	L,III,6 Repeating three digits Mem.
L,II-6,1 Identifying objects by use P	L,II-6,2 Identifying parts of the body P	L,II-6,3 Naming objects P.V.	L,II-6,4 Picture vocabulary P.V.	L,II-6,5 Repeating two digits Mem.	L,II-6,6 Three-hole form board: rotated
L,II,1 Three-hole form board	L,II,2 Identifying objects by name P	L,II,3 Identifying parts of the body P	L,II,4 Block building: tower	L,II,5 Picture vocabulary P.V.	L,II,6 Word combinations

[a] B.S.—Bead stringing test item
[b] P—Pointing test item
[c] P.V.—Picture vocabulary test item
[d] No.—Number test item
[e] D—Drawing test item
[f] Mem.—Memory test item

"Memory" test items were those requiring memory of digits, objects or sentences presented by the examiner. In the case of digits and sentences, hearing ability was required. Test items in this group were L,II-6,5; L,III,6; L,IV,2; L,IV-6,2; L,V,5.

"Drawing" test items were those requiring drawing of lines or copying of figures. Test items in this group were L,III,5; L,IV,3; L,V,1; L,V,4; L,VI,6.

"Bead Stringing" test items were those requiring the child to string ½ inch beads on a shoe string. Test items in this group were L,III,1; L,VI,,2.

Additional sequences of related test items might include "Three-Hole Form Board" test items (L,II,1; L,II-6,6); "Block Building" test items L,II,4; L,III,3); "Comprehension" test items (L,III-6,6; L,IV,6); and "Vocabulary" test items (L,V,3; L,VI,1).

It is of interest to note that the "Pointing" test items and the "Picture Vocabulary" test items are distributed throughout the range of mental ages of the Stanford-Binet Intelligence Scale, Form L.

The identification of groups or sequences of related psychological test items in a well-standardized and widely used intelligence test has both practical and theoretical possibilities. Using this approach, it may be possible to indicate which abilities sampled by a group of related test items are present and to what degree. This is even more meaningful when groups of cerebral palsied children with known physical disabilities are compared with children who are not physically handicapped. For example, the cerebral palsied child's "pointing" ability may remain intact, but his motor coordination as shown in ability to do bead stringing or to fold square sheets into triangles may be quite impaired. In some instances, memory for pictures, objects and parts of pictures may be worse than ability to comprehend and express number concepts.

The writer has used this procedure to identify those psychological test items which are at present not feasible for cerebral palsied children, in the sense that the abilities required to accomplish the test item are impaired or absent. Such information is indispensable in order to proceed with a systematic approach to the problem of modifying or restandardizing the present test items for use with cerebral palsied children. In individual psychological evaluations, such information has made it possible to differentiate between the handicapped child's intelligence test scores and his intellectual potentialities. This knowledge can be helpful in more realistic planning for education of cerebral palsied children (3).

From a theoretical viewpoint, the task of correlating intellectual functioning and known lesions of the brain may be rendered less formidable if a more simple classification of psychological test items is available. Patterns

of test behavior could then be more meaningfully related to neurological findings. Preliminary studies along these lines, in comparing athetoid and spastic cerebral palsied children have furnished some promising leads for further investigation.

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2. Terman, L. M. and Merrill, M. A. *Measuring intelligence.* New York: Houghton Mifflin Company, 1937.

3. *Realistic educational planning for children with cerebral palsy: psychological evaluation.* Pamphlet No. 5. New York: United Cerebral Palsy Associations, Inc., 1953.

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Sixth Annual Research Conference

The Sixth Annual California State Conference on Educational Research was held at the De Anza Hotel in San Jose on Friday and Saturday, November 5 and 6, 1954. One hundred eighty-two persons formally registered for the Conference. Others were there as visitors and guests. Honored guests included Dr. Maude Merrill James, Emeritus Professor of Psychology of Stanford University, and Dr. Walter S. Monroe, Distinguished Professor of Education Emeritus of the University of Illinois. Dr. Lewis S. Terman sent greetings to the Conference but was unable to attend because of his health.

The Conference was held under the sponsorship of the California Advisory Council on Educational Research and the California Teachers Association. Over-all responsibility for the proceedings rested with Dr. Kenneth R. Brown, Director of Research of the CTA and Chairman of the Advisory Council. The program was prepared under the leadership of Dr. Harold D. Carter, Professor of Education at the University of California at Berkeley, who was chairman of the Council's program committee. Mrs. Nan Allan, of the Santa Clara County Schools Office, was in charge of local arrangements.

The program of the Conference is reported in detail in Research Bulletin No. 77 of the California Teachers Association.

Job Placement Services In California High Schools

LEONARD CALVERT

Cursory examination of the current status of student personnel work in rapidly changing secondary schools reveals confusion. Greater than the lack of complete agreement among guidance personnel and administrators upon the broad principles of guidance and its place in the total school program is the lack of accord concerning specific organization, processes, and techniques. Adequate, over-all administrative plans and procedures, much needed in guidance work at present, must await knowledge of superior practice in many areas of specialized guidance service. One of those areas, and one in which there exist sharp differences of opinion with little more than limited observation to support them, is job placement service.

Since large numbers of youth were entering the labor market, since there was disagreement over whose responsibility it was to place them, since groups looked to the schools, and since there was no pattern to recommend, this study was deemed important.

Questions Involved

In the study, efforts were made to answer the following questions: (1) Is supplying job placement considered an appropriate function of the public high school? (2) What basic criteria can be established for job placement as applied to schools? (3) What methods are employed in providing job placement to students in California high schools generally and in schools where "good practice" is indicated? (4) What evaluations of practice can be made in light of the criteria evolved in the study? (5) From data gathered, are there criteria, principles, and procedures which may be recommended for the school seeking to institute or improve placement service?

The point of view of California administrators on placement, as well as the data on state-wide practice, were obtained from a questionnaire returned by 471 of the state's 665 secondary school administrators; 334 of those reporting were high school principals or superintendents. Seventy-one

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criteria derived from related information were evaluated on a three-point scale by two juries, one composed of sixteen specialists in guidance and the other of ten nationally recognized leaders in secondary school administration. The forty-nine criteria endorsed by the juries comprised an evaluative check list. The list was used in interviewing officials and in making personal observation of practice during 1952 in nine selected programs in various parts of the state which were suggested by a small jury.

Findings

The findings with respect to the first four major questions asked in relation to the problem are given in the order listed.

1. **Appropriateness of placement.** Placement, a traditional high school activity, had become increasingly important at high school level because of rapid expansion of employment opportunities and work experiences of youth of high school age. The literature presented four divergent and vigorously defended points of view placing responsibility for placement on (a) school, (b) public employment service, (c) school and public employment service in cooperation, and (d) community agencies. Three-fourths of the administrators in the 471 secondary schools of all types, and an equal proportion of those that were in the 332 high schools included in the study, indicated that job placement service is an appropriate service for high schools to offer; two-thirds not only approved placement but indicated their schools were actually engaging in some placement activity.

2. **Basic criteria.** Individual and scattered criteria for high school service made their earliest appearances in the late 1930's, increasing since 1940, but little objective data for evaluation of composite lists were available. In distributions of percentages of "much importance" assigned by administration and guidance juries to seventy-one suggested criteria (Table I), medians varied less than 1 per cent; the rank correlation was .63. Forty-nine criteria pertaining to pre-organizational decisions and actual operation of services were endorsed according to a minimal index of "much importance" established in the study.

3. **Current practice.** Four of every five reporting high schools in the state engage in some placement activity. As shown in Table II, slightly more than half engage in informal and casual activity; one-fourth operate school-wide service centralized about the counseling or administrative personnel, work experience co-ordinator, attendance officer, or continuation co-ordinator; the remaining one-fourth utilize one of the following: (a) cooperative plan with some out-of-school agency, (b) decentralized activity in several school departments, or (c) commercial department service only. "Good practice" involved no wide standardization of pattern but did include: (a) preliminary investigations to determine need for service, (b) agreement upon several basic principles, objectives, and policies before

organizing or revising service, (c) setting up organizational patterns and operating procedures prior to functioning, and (d) securing, in their operation, support from the school, giving service to the individual students and to the school at large, and, to a lesser extent, cooperating with community agencies.

TABLE I
Distribution of Units of Much-Importance Assigned to Seventy-One Suggested Criteria by Each of Two Juries

Index Number Assigned	*Number of Criteria In*	
	Guidance	*Administration*
97.5-102.5	4	4
92.5- 97.5	12	21
87.5- 92.5	12	21
82.5- 87.5	12	9
77.5- 82.5	8	23
72.5- 77.5	3	5
67.5- 72.5	0	5
62.5- 67.5	8	2
57.5- 62.5	0	2
52.5- 57.5	7	2
47.5- 52.5	1	2
42.5- 47.5	0	0
37.5- 42.5	2	0
32.5- 37.5	1	0
27.5- 32.5	1	0
Total items	71	71

	Guidance	*Administration*
Median	84.4	85.0
Mean	79.6	83.5
Q3	91.8	91.7
Q1	56.6	77.4
Q	17.6	7.1

Rank correlation 0.63

Note: This table should be read as follows: Four of seventy-one criteria were assigned index numbers (representing percent-of-much-importance) of from 97.5 to 102.5 by the guidance jury; four criteria received similar index numbers from ratings made by administrators.

4. Evaluation of good practice. Ninety per cent of "good practice" programs had engaged either "to a great extent" or "to some extent" in establishing a need for placement service through preliminary fact-finding procedures, according to summary evaluations. With the exception of

program which did so only moderately, all programs had developed principles and objectives "to a great extent" before formalized activity was instituted, according to summaries of nine criteria ratings. Operating policies, functions, and procedures were agreed upon in advance in all but one program, as indicated by fourteen basic criteria applied. Three-fourths or more of the programs met high standards for school support and for service to individual students. Slightly more than half were found to provide maximum related services to the school at large and only a third were rated as making maximum contributions to the community.

TABLE II

Distribution of Types of Job Placement Services in 273 High Schools

Type Reported	*Number of Schools*	*Per Cent Schools*
Informal and casual	145	53.2
Centralized on a schoolwide basis	70	25.6
Organized and administered cooperatively, school and outside agency (ies)	27	9.9
Provided for in several departments	15	5.4
Organized within commerce department only	12	4.4
Other	4	1.5
All types reported	273	100.0

Conclusions

There is nothing revolutionary in a high school's offering job placement service. The question is no longer: Is job placement appropriate? It is, rather: Since placement has been and is now being widely provided, how best can it be carried on?

Guidance and administration specialists agreed upon basic criteria for school service.

Good practice exists. It was seen in a variety of selected programs to involve most of the characteristics suggested by the endorsed criteria, in degrees varying with local needs. Successful placement services in each locality face problems more or less common to all.

The evaluations of specialists as well as successful practice suggest groups of basic criteria applicable to programs of any size or volume of placement in various kinds of communities, namely, criteria concerning: (a) preliminary investigation to determine need, (b) planning prior to operation, and (c) actual operation of placement service.

Recommendations

The general recommendations include these: (1) the high school should consider itself an agency for youth placement, either providing it or seeing

that it is provided; (2) placement help should be given the employment-bound as well as the college-bound; (3) since services should be provided in all high schools to the extent and in the manner best suited to local needs, no standardization is implied; (4) some one person should be responsible for placement in every school; (5) as much concern should be exercised in selecting the personnel to handle placement as is employed in deciding upon the type of organization; (6) since various factors of material and psychological nature exert their influences, the organization should remain flexible; and (7) adequate records and accounting systems should be instituted so that cost of placement may become known and evaluations can be made.

Specific recommendations which can be carried out in a variety of ways as local needs dictate are presented as basic features of job placement service. While their applications may differ greatly, the seven basic features should be provided.

1. A need should be established. Objective data recommended includes: numbers of students at or needing work, number and causes of drop-outs, local opportunities and facilities for youth employment already available, and probable employer demand and cooperation.

2. Principles and objectives of the service should be pre-determined. Anticipated problems should be given careful consideration. Placement should, among other things, be considered a part of the guidance continuum and should be evaluated on the basis of results rather than on vague general principles; it should not be limited to one department, grade level, or type of student. Schools should not be obligated to plan placement for all youth in the community, nor be so concerned over quality of placement that a delay in getting a quantity of placements under way results.

3. Organizational and operational policies and procedures should be set up in advance. Recommended decisions: degree and type of cooperation with any out-of-school agency such as the public employment service, local adaptations of successful plans in operation elsewhere, availability of qualified operating personnel and financial support, centralization or coordination of all placement under one person with the support of the next higher line officer, provisions for peak placement load periods, and staff time sufficient to do the amount of placement anticipated.

4. The school should support and promote placement. Some recommended provisions: facilities close to central record depository, reliable information to students about the service, and effort to report to and clear with placement service all job orders and placements.

5. Individual students should be served. It is recommended the service should: provide protection against exploitation, make referrals to jobs meeting legal standards for youth employment and best suited to interests and qualifications of applicants, solicit jobs only for those about to enter the

labor market on a full-time or supervised basis but fill job orders which initiate outside the school, offer timely counsel in on-the-job conflicts, and keep such minimal records of employment as will actually be used. The service should not: take responsibility for occupational testing, recommending changes in curricular placement of students, or routine interviewing of drop-outs.

6. The school should be served. The service can provide: meaningful information to improve understanding of individual students as well as evaluation of effectiveness of instruction and training within the school, assistance in follow-up surveys, realism to the guidance program particularly in twelfth grade, and participation in wholesome public relations. Except in larger systems it should not be expected the service will prepare curricular materials.

7. Community service should be provided. Placement activities within the average school are so heavy that little community service is recommended except in routine operations such as contacts with business and industry, civic groups, and youth-serving agencies including the public employment service. Placement workers should not be expected to represent the school in contacts with employer or labor groups, to provide employers with information on child labor laws, to furnish data for use in broad community planning, nor to crusade against undesirable practices in employment of young people.

The U. S. Selective Service Board has awarded Science Research Associates the contract for developing and supervising the administration for this coming year of the Selective Service College Qualification Test.

Given annually, this test is the basis on which draft boards determine which college students should be deferred from the draft to continue their education. The Selective Service College Qualification Test is the Selective Service System's answer to the problem of using American manpower wisely—and of assuring the nation's safety and prosperity by identifying potential leaders and giving them an opportunity to obtain a higher education. The SSCQ Test is aimed at screening out the nation's future scientists and engineers, doctors and dentists, teachers, and business executives, so that the United States will continue to maintain scientific and technical leadership, and will have on hand the necessary trained people to preserve its health, educate our children, and make and protect our laws.

The test has been designed to determine scholastic aptitude—the aptitude to learn. This three-hour test will measure abilities in two broad areas—quantitative reasoning and verbal or linguistic ability.

Interpreting Occupational Interest

The Relationships Between the Lee-Thorpe Occupational nterest Inventory and the Strong Vocational Interest Test for Men

HENRY CLAY LINDGREN
AND
RICHARD L. GILBERG

One of the chief reasons for undertaking this study to explore the relationship between the Occupational Interest Inventory (hereinafter called the OII) and the Strong Vocational Interest Test for Men is the comparative dearth of validation data on the OII. Jacobs (2), Roeber (6), and Lindgren (3) have each reported substantial correlations between scales of the OII and the Kuder Preference Record, and MacPhail (4), MacPhail and Thompson (5), and Sanborn and McIntire (7), have developed some data bearing on the validity of the OII with respect to occupational and academic groups. Other than these studies, professional workers have had little else of a research nature to draw on in interpreting scores on the OII. The authors of the present study felt, therefore, that a comparison of the OII with the Strong would be helpful and desirable, particularly in view of the impressive array of data accumulated in the course of validating the latter instrument (8).

Population

The population on which this study is based consists of 60 veterans who were counseled at a California state college guidance center during the years 1947 to 1949, and who took both the Strong and the OII. A comparison of the scores they made on the latter test with scores made on the same test by 954 veterans reported by Lindgren (3), shows a number of differences, none of which is very marked. In no scale does the average score deviate more than 10 percentile points. The present group scores higher than the larger group on the following scales (differences between means being indicated in parentheses): personal-social (2.77), business (.43), the arts (1.96), verbal (2.36), manipulative (.19), computational (.28) and level of interest (3.14). The present group scores lower on the following scales: natural (.76), mechanical (2.45), the sciences (2.18). Most of these differences are statistically significant, because of the size of the N's

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TABLE I

Correlations Between the Lee-Thorpe Occupational Interest Inventory and the Strong Vocational Interest Inventory for Men

		LEE-THORPE										
	STRONG	Personal-Social	Natural	Mechanical	Business	The Arts	Science	Verbal	Manipulative	Computational	Level of Interest	Mean (Standard Scores)
I	Artist	.07	.06	.29*	-.65**	.30*	-.03	.20	-.10	-.52**	-.42**	24
	Psychologist	.00	-.13	.16	-.61**	.36**	.38**	.06	-.13	-.29*	.30*	19
	Architect	.00	-.19	.36**	-.58**	.23	.24	-.07	.10	-.20	.07	24
	Physician	-.03	-.06	.51**	-.84**	.00	.53**	-.20	-.06	-.39**	-.23	27
	Osteopath	.36**	.23	.33**	-.61**	-.13	.03	-.06	-.04	-.47**	.06	32
	Dentist	-.23	.16	.62**	-.77**	-.14	.45**	-.40**	.06	-.39**	.00	25
II	Mathematician	-.07	-.07	.29*	-.39*	-.14	.55**	.00	.17	-.06	-.14	18
	Physicist	-.32**	.23	.48**	-.57**	-.27*	.51**	-.26*	.16	-.24	-.03	13
	Engineer	-.43**	.24	.62**	-.33**	-.51**	.65**	-.51**	.13	-.07	.03	25
	Chemist	-.31*	.16	.51**	-.56**	-.23	.66**	-.36**	.13	-.20	.11	24
III	Production Manager	-.42**	.17	.51**	.16	-.55**	.32	-.60**	.29	.06	.14	33
IV	Farmer	-.66**	.43**	.55**	-.16	-.39**	.23	-.65**	-.04	.04	-.29*	35
	Aviator	-.39**	.13	.68**	-.29*	-.17	.27*	-.47**	.00	-.26*	.00	33
	Carpenter	-.48**	.23	.58**	.10	-.48**	.03	-.65**	.26*	.07	-.30*	26
	Printer	-.36**	-.07	.48**	-.36**	.17	.23	-.43**	.09	-.23	-.04	40
	Math.-Physical Science Teacher	-.20	.10	.36**	-.17	-.32*	.47**	-.42**	.36**	.06	-.04	36
	Policeman	-.16	-.10	.20	.07	.00	.03	-.06	-.26*	.07	-.06	34
	Forest Service Man	-.39**	.45**	.52**	-.39**	-.27*	.20	-.55**	.10	-.20	-.14	25

	STRONG	Personal-Social	Natural	Mechanical	Business	The Arts	Science	Verbal	Manipulative	Computational	Level of Interest	Mean (Standard Scores)
V	YMCA Phys. Director	.19	−.16	−.06	−.03	.29*	−.29*	.00	.36**	.14	.03	33
	Personnel Director	.20	−.36**	−.13	.16	.33**	−.23	.24	−.10	−.07	.51	32
	Public Administrator	.13	−.09	.03	−.17	.19	−.17	.22	−.06	−.17	.45**	36
	YMCA Secretary	59**	−.19	−.51**	.06	.42**	−.50**	.39**	−.07	.08	.23	28
	Soc. Sci. H.S. Teacher	42**	−.33**	−.65**	.29*	.42**	−.42**	.53**	−.13	.14	.07	37
	City School Supt.	.62**	−.42**	−.65**	.03	.48**	−.29	.74**	−.23	.11	.13	25
	Minister	.51**	−.36**	−.32*	−.13	.48**	−.36**	.43**	−.36**	.00	.36**	23
VI	Musician	.16	−.36**	−.10	−.39**	.65**	−.13	.09	−.07	−.10	−.04	36
VII	C.P.A.	.32*	−.36**	−.23	.23	.09	.07	.42**	−.10	.24	.29*	25
VIII	Accountant	−.06	−.26*	−.13	.61**	−.23	.16	−.11	.00	.65**	.26*	29
	Office Man	−.10	−.24	−.26*	.71**	−.10	−.10	−.16	.09	.53**	.24	35
	Purchasing Agent	−.56**	−.06	.30*	.52**	−.48**	.27*	−.50**	.39**	.30*	.00	31
	Banker	.00	−.17	−.23	.88**	−.33**	−.24	.20	−.04	.61**	−.22	29
	Mortician	.10	−.03	.00	.36**	.03	−.59**	.03	.20	−.20	−.13	33
IX	Sales Manager	.06	−.07	−.29*	.55**	.19	−.57**	.33**	.13	−.10	.14	32
	Real Estate Salesman	.06	.09	−.29*	.36**	.13	−.55**	.13	.09	.10	−.04	39
	Life Insurance Salesman	.55**	−.26*	−.48**	.42**	.36**	−.74**	.68**	−.03	−.03	.00	32
X	Advertising Man	.42**	−.29*	−.45**	−.19	.74**	−.43**	.71**	−.20	−.36**	.06	35
	Lawyer	.36**	−.17	−.29*	−.30*	.51**	−.26*	.65**	−.26*	−.26	−.07	30
	Author-Journalist	.29*	−.10	−.17	−.36**	.39**	.16	.56**	−.16	−.22	−.13	31
XI	President Mfg. Concern	−.10	−.06	.10	.29*	−.13	−.10	−.06	.42**	−.06	−.07	29
	Interest Maturity	.26*	−.26*	−.30*	.20	.23	−.16	.16	.10	.14	−.58**	54
	Occupational Level	.55*	.14	−.39**	−.16	.03	.03	.55*	−.04	−.13	.13	50
	Masculinity-Feminity	−.48**	.20	.45**	.33**	−.77**	.30*	−.56**	.32*	.36**	.17	46
	Means (Raw Scores)	20.2	17.5	20.7	22.4	22.5	21.5	12.7	13.8	9.0	71.5	—

** Significant at the .01 level of confidence
** Significant at the .05 level of confidence

involved, but their practical significance may be questioned. In any event, the differences are of the type that would be expected when a population attending a liberal arts college where teacher education is emphasized is compared on an interest test with a population drawn from more general sources. An analysis of average scores made by the group on the Strong presents a somewhat similar picture.

Method and Results

Correlations were computed between the raw scores of the OII and the standard scores (in order to avoid minus values) for each of the scales of the Strong presented on the 1946 version of the Hankes Report Form. The method used for computing correlations was that described by Flanagan, which is actually an estimation based on comparing individuals found in the upper and lower 4th, 8th, and 25th percentages of the population on each variable (1). Flanagan found this method to be only slightly less precise than the longer computational methods. The correlations are presented in Table 1.

Table 2 represents the intercorrelations between the various scales of the OII, based on tests taken by 100 veteran counselees selected at random from a larger population of several thousand veterans served by guidance centers in California, Arizona, Nevada, and Hawaii in 1947. These data have not been published previously and are presented here for the purpose of giving added meaning and emphasis to the discussion of the OII that follows.

Discussion

In general, the correlations presented in Table 1 confirm what one might reasonably expect. There are satisfactorily high correlations between the occupational classes in Strong's Group II and the Science scale of the OII; Strong's Farmer correlates in a strong positive direction with the OII's Natural scale; Forest Serviceman has a high negative correlation with the OII Verbal scale; and so forth.

However, a review of Table 1 may help to give more meaning to each test in terms of the other and thus clarify some of the questions that have puzzled clinicians and counselors regarding the OII.

The Personal-Social scale correlates most highly in Group V of the Strong, where high positive correlations would normally be expected. High correlations in Group X may be accounted for by a heavy loading of verbal items. High negative correlations between the Personal-Social scale and occupations in Groups II, III, and IV, as well as with the MF scale, are also in the expected direction. High correlations with Osteopath, C.P.A., and Purchasing Agent are interesting and worthy of further study.

The Natural scale correlates in a high, positive direction with the out-of-door occupations listed by Strong, although the correlations are generally

TABLE II

Correlations Among the Scales of the Lee-Thorpe Occupational Interest Inventory

	Personal-Social	*Natural*	*Mechanical*	*Business*	*The Arts*	*Science*	*Verbal*	*Manipulative*	*Computational*
Personal-Social	—	—	—	—	—	—	—	—	—
Natural	-.08	—	—	—	—	—	—	—	—
Mechanical	-.61**	-.02	—	—	—	—	—	—	—
Business	.08	-.44**	-.28**	—	—	—	—	—	—
The Arts	.32**	-.28**	-.43**	-.09	—	—	—	—	—
Science	-.42**	-.12	.35**	-.11	-.26**	—	—	—	—
Verbal	.81**	-.28**	-.78**	.42**	.53**	-.66**	—	—	—
Manipulative	-.12	.22*	.19	-.01	-.04	.08	-.13	—	—
Computational	-.01	-.45**	.20	.75**	-.17	.05	.14	-.29**	—
Level of Interest	.07	.06	.08	-.12	.20*	.08	.01	.02	.16

**Significant at the .01 level of confidence.

*Significant at the .05 level of confidence.

not as high as those obtained on the other scales of the OII. Perhaps the Natural scale is not as useful as the others for purposes of differentiating among different occupational fields. Very likely it touches on interests that are more recreational than vocational. Data in Table 2 indicate that it is somewhat more independent of other scales; hence its retention in the test appears justifiable.

The Mechanical scale performs very much in the expected direction. Table 2 indicates that it should be the mirror image of the Personal-Social scale. It shows this kind of relationship rather generally in Groups II, III, IV, V, and X of the Strong, but not in Group I. Perhaps this may be interpreted that people in most of the occupations in Group I are "for" mechanical work without necessarily being "against" working for the welfare of others.

From the data in Table 1 it would appear that the business groups on the Strong (VIII and IX) deviate widely from all other groups on the Business scale of the OII. The high, negative correlations that show up in Strong's Groups I, II, VI, and X invite interesting speculations as to why persons in these groups shun the activities associated with business transactions.

Correlations of Strong scales with the Arts are very much as expected. The scale is almost as highly correlated with Group V as is the Personal-Social scale.

The Science scale produces correlations which are very much in the expected direction, particularly in view of the high negative correlation between Science and Personal-Social indicated in Table 2. However, Table 1 would indicate a much higher negative correlation between Business and Science than Table 2 shows.

The correlations of the Verbal scale with scales on the Strong are so close to the Personal-Social as to raise the question of whether the two scales are not measuring much the same thing. This conclusion is supported further by the correlation of .81 between the two scales as reported in Table 2. Indeed, the Verbal scale shares 11 of its 22 items with the Personal-Social scale. Seven additional items are shared with the Arts scale, which, in turn, correlates highly with the Personal-Social scale. It would seem that the Verbal scale might easily be eliminated without great loss to the usefulness of the test.

The Manipulative scale appears to be quite independent from the other scales of the OII, but it fails to show many significant correlations with the Strong scales.

The Computational scale shares 13 of its 19 items with the Business scale, which accounts for the intercorrelation of .75 reported in Table 2. This also accounts for the negative correlations between this scale and scales in Group II of the Strong. This may mean that persons in the latter group have little taste for the kind of computing work done by businessmen

or it may mean that they enjoy other aspects of their work more than the merely computational duties.

The Level of Interest scale, according to the description given it in the manual, led the investigators to expect it to be somewhat similar to Strong's Occupational Level, but its more significant correlation is with the Interest Maturity scale. Since its other significant correlations are well distributed throughout the range of Strong scales and groups, it is difficult to draw inferences as to its significance in terms of the Strong. One hypothesis that emerges from an inspection of the moderately high positive correlations is that it may be a measure of "drive toward status" on the part of persons in "intermediate" administrative positions.

Summary and Conclusions

A comparison of the scores made by 60 male clients of a counseling center on the Strong Vocational Interest Blank for Men and on the Occupational Interest Inventory (Lee-Thorpe), with the purpose of securing validating data for the latter instrument, has produced correlations that are largely in the expected directions. Although the OII, like the Kuder Preference Record and other logically derived instruments, cannot be considered as an acceptable substitute for the Strong, apparently it does measure many of the same things, although in a much grosser way. Some of its scales rather closely parallel some of the scales of the Strong; others appear to be relatively independent of any of the Strong scales and should be studied further to determine whether they have any great validity for vocational counseling. Some of the scales of the OII are so closely related to other scales on the same instrument as to raise the question of whether it is worthwhile to compute their scores.

In general, the results of this study appear to indicate that counselors would be justified in using the OII as part of a test battery on occasions when the Strong is not available or for some reason is not suitable. It might also be used when results on the Strong are inconclusive and there is a need to develop further leads for counseling.

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Financing of Adult Education In the United States

With Special Application to the State of California

VERNON B. SHEBLAK

The purpose of the study was to make a critical examination of the present plans for financing adult education and the bases on which funds are apportioned to the public schools in the United States with a view to recommending a plan for financing adult education in the State of California in accordance with the best available criteria.

Questionnaires were sent to the superintendents of public instruction in the forty-eight states, District of Columbia, and three territories. Replies were received from all except the state of Delaware. Statistical information was also obtained from reports and surveys made by the California Association of Adult Administrators, the Los Angeles County Superintendent of Schools, and the California State Department of Education. The following is a summary of the study:

Financing Is a National Issue

Recent national surveys indicate that there are approximately forty million adults who desire to continue their education. Experience of administrators indicates that one of the most effective ways the public schools could build good public relations would be to serve the educational needs of every adult in their local community.

Most authorities agree that public support for the financing of adult education is easier to obtain for certain areas such as vocational, remedial and Americanization. There is more opposition to the financing of classes in arts and crafts, physical education, music and the fine arts.

The problem of finance is one of the most important facing the adult education administrator today. In a recent survey, it was found that 80 per cent of the adult educators answering the questionnaire stated that they felt hampered because of limited financial resources.

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Financing in the States and Territories

The development of a successful public school adult educational program within a state requires specialized knowledge and strong educational leadership on the part of both the State Department of Education and the local school administration. Most adult education legislation is permissive in character and is usually not adequately supported by legislation designed to put the program into operation.

Many large cities in the United States have developed excellent programs of adult education, regardless of whether they receive financial support from the state.

The various state plans for financing adult education appear to have little in common, but the strong programs seem to be located in the states where state support is available. Financial support for adult education in the nation during 1951-52 equaled 1.9 per cent of the day school expenditure. During 1951-52 twenty-one states allocated financial aid for adult education classes and eleven states had at least one full-time staff member assigned to this educational area.

Between 1947 and 1953, the states of Georgia, Louisiana, and Oregon started to distribute state funds for general adult education classes, and the states of Nevada and New Jersey discontinued it. The trend toward states providing aid seems to have reached a plateau. In those states that provide state aid, approximately one-half of the cost of the public school adult education program is paid out of state funds. Twelve of the twenty-one states providing state aid for adult education do so for all types of classes while the other nine only provide aid for classes in literacy and citizenship. The states which allocate the largest amount of money for adult education at present are California, Massachusetts, Michigan, New York, Pennsylvania, Washington, and Wisconsin.

Seven states apportion funds on the basis of the instructional cost of the class, while the others use various measuring devices such as average daily attendance, clock hours and membership year. Standards for reimbursement also vary greatly from state to state. Some states require only that the teacher of the adult class hold a valid credential, while others have four or more standards that must be met.

The total enrollments in adult education classes are gradually increasing, but surveys indicate that only about five per cent of those adults interested in furthering their education are being served. The public schools still have a long way to go if they expect to meet all of the demands for adult education.

Evolution of the California Plan

The adult education program in the public schools of California is almost one hundred years old. The California State Constitution of 1879 legalized

evening high schools and later legislative acts established the principle of state financial support for secondary education, including adult evening high schools. In 1907, the State Supreme Court decided that a school's status was not impaired merely because it met at night; however, to receive state aid a school must comply with standards appropriate to its type.

The Present California Plan

Adult education in California is a definite part of secondary education, and as such receives its share of state apportionment as does any other segment of public education. State funds are distributed on the basis of a.d.a. units which are actually 525 clock hours of attendance on the part of an adult student. Adult education costs the state taxpayer less than four per cent of the state public school fund each year.

Units of adult a.d.a. are not included in the total a.d.a. of a school district when applying the equalization formula for apportioning state school funds.

A few school districts "make money" on adult education classes, but this admittedly undesirable condition should be corrected. Almost all local school districts contribute some local funds for the support of adult education classes. Most school administrators believe that the ratio should be about 55 per cent state aid and about 45 per cent local district support for public education.

Special Problems

Many writers in the field of adult education favor a moderate tuition fee for adult education classes. It is argued that the payment of a fee causes the student to place more value on the course; and helps to maintain a higher average attendance in adult classes. Recent surveys made in California evening high schools indicate that the vast majority of adult students do not favor the payment of a fee. In a survey made among 3,000 school superintendents, almost one-half of them favored free adult education classes. A higher percentage of those in large cities favored free classes than did those in smaller cities.

The question has frequently been raised as to whether school districts should receive state equalization funds for adult education a.d.a. Adult education administrators support the stand that adult education should be financed the same as other segments of public education, including the apportionment of equalization funds. However, where a school district has a large adult program in a state institution, they recommend that these districts be reimbursed for only the actual cost of the class. Many educators and others do not agree with the stand on equalization taken by the adult

education administrators, but take the opposite viewpoint that adult education a.d.a. not be included when computing the equalization apportionment for a school district.

The hourly rates paid adult education teachers in California average higher than rates paid in the rest of the country. Most school districts pay on a flat-rate basis, but some pay on a sliding scale, depending on years of service.

The "hidden costs" of adult education, including such items as lights, heat and janitors' supplies, are very difficult to determine. In any report claiming to show the cost of any adult education program, a reasonable amount for these expenses should be included.

The Editors Say . . . *(Continued from page 2)*

It has been suggested to the Advisory Council that, if a State-wide research organization existed, the Journal could serve as its official organ and the subscription price of the Journal could be included in the membership dues. There is no doubt that such a relationship would have advantages both to the organization and to the Journal. It would undoubtedly expand the subscription list of the California Journal of Educational Research and, what is more important, it would result in the research findings published therein being much more widely read and used.

Other possibilities have also been discussed by the Advisory Council. For instance, the expansion of student subscription opportunities through the services of the California Student Teachers Association has been proposed. Changes in subscription rates and the use of group subscriptions for organizations such as large school districts are also being considered.

None of these ideas presented here have been formally adopted by the Advisory Council, the California Teachers Association, the California Journal of Educational Research, or by any other group. They represent, however, a very encouraging upsurge of constructive thinking about the problems of coordinating and disseminating educational research in California. The important thing is that constructive action come out of this upsurge. It is the responsibility of California's educational research workers to see that it does.

Development of a Diagnostic Scoring Scheme For a Study Methods Test

HAROLD D. CARTER

In previous reports (1, 2, 4) it has been shown that a study methods inventory (5) yields substantial predictions of school achievement, both at the high school and at the college level. In order to make such an instrument effective in counseling, it appears desirable to develop a diagnostic scoring scheme for it. The total score from the inventory indicates the general level of excellence of study methods reported by the pupil, but does not indicate the precise nature of the faults in those instances where study methods seem to be inefficient.

As reported earlier (1), the Study Methods Test was originally constructed by finding questions which were answered differently by students with good achievement records and by students with poor achievement records. Through repeated studies of large groups of students, a considerable number of these discriminating questions were located. Scoring keys for the test have been constructed by contrasting the responses of good and poor students.

Nature of the Diagnosis

The intercorrelations among items in the inventory have been computed, and several factor analyses have been completed, using Thurstone's centroid method. Such investigations (3) have indicated that the study test items may be regarded as yielding measures of four independent factors. By the usual inspectional analysis, these factors seem to be, in order of importance:

1. A measure of adjustment, self-confidence, or morale in the academic situation.
2. A measure of the extent to which the individual pupil has the motives and drives characteristic of scholars.
3. A measure of the extent to which the pupil uses effective procedures in studying (Mechanics of study).
4. A measure of the tendency of the individual to be planful and systematic in getting school work done (Tendency to use time effectively).

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A later form of the inventory was arranged so as to yield not only a total score, but also separate scores for each of the four factors. The inventory (5) as used in the present study includes one group of items for each of the first three factors, and two groups of items for measurement of Factor IV.

Difficulties Encountered

General experience with the inventory, as well as manipulations of data involved in factor analysis, and counseling interviews with students, have suggested to the writer that certain special difficulties lie in the way of constructing a practical and effective diagnostic scoring for an inventory of this type.

A basic trouble lies in the tendency of scores from such inventories to be unreliable, when derived from small blocks of items. Difficulties have been met in attempting to use the common and well-known methods for increasing the reliability of the scores. For example, it seems likely that consistency measures can be much improved through a type of item-selection that would require high inter-correlations of items in each factor group. This type of selection seemed undesirable at the present time, however, in view of the fact that every item in the inventory, except for a few in the second Factor IV group, had been selected originally because of its validity.

A second difficulty arises from the fact that practical considerations limit the length of the inventory. This fact interferes with free use of the most obvious technique for improvement of the reliability and validity of the factor scores. It is theoretically possible to write many more questions about study technique, but in practice it turns out that most of the questions written are ineffective. Furthermore, the scoring of the inventory using the original weighted scoring key is laborious and expensive. For reasons of economy, if the test is to be extended, simplification of the scoring becomes a practical necessity.

Apparently both theoretical and practical difficulties must be overcome in order to provide analytic scoring which is reliable, valid, and psychologically meaningful.

The Present Report

In this report the writer presents evidence from a series of studies made in the attempt to overcome some of the basic difficulties. The salient aspects of these studies may be called to mind through pointing out three facts: (1) The items in the inventory have been selected first of all on the basis of their validity for prediction of achievement; (2) The factors measured by the test have been indicated through multiple factor analysis; whether or not they have been named correctly, they are factors existent in the inventory items; (3) This study is in itself a cross-validation study; the scoring

techniques were based upon data from earlier samples; in this study, the scoring keys developed earlier, and the items selected earlier, are now being tried out on a completely new group of students.

Data and Procedure

The California Study Methods Test (5) was administered to a group of 215 students in Educational Psychology. The measure of achievement in the course, which was used as the criterion in the study, consisted of the sum of scores from four objective examinations. The students in the group were mostly juniors, but a few seniors and graduate students were included. All are students who have successfully completed the work in the first two years of college.

The study methods tests were scored first with the original weighted scoring scale, in which weights for item-responses ranged from plus five through zero to minus five. Later, the same tests were scored using two simplified scoring scales. Table I provides an illustration of the differences between the three scoring scales, showing the weights for each scale, for items number 51 and 86 in the test. The purpose of this multiple scoring

TABLE I

Three Types of Scoring for Responses to Items in a Study Methods Test.

	Scoring Weights for Responses				
	A	*U*	*S*	*R*	*N*
Item 51:					
Weighted key	–1	–2	–3	5	1
Positive unit key	0	0	0	1	1
Negative unit key	–1	1	–1	0	0
Item 86:					
Weighted key	1	1	–1	–1	0
Positive unit key	1	1	0	0	0
Negative unit key	0	0	–1	–1	0

Note: The questions asked in these items are as follows:

Item 51: "When you study with other people, do they know more about the lesson than you do?"

Item 86: "Are you careful to see that you spend enough time in study to accomplish your purpose?"

is to explore the possibilities of simplifying the scoring system. Since the introduction of diagnostic scoring tends to result in complication, it seems appropriate at the same time to investigate revisions which would reduce the complication. Machine-scoring with the weighted scale would be very inconvenient. If the simplified scoring is adequate, then one of the practical difficulties in the way of improvement of the test can be overcome.

Results

This study will present direct evidence of the validity of each of the scoring keys, but will not attempt to deal with the reliability of those keys. This is the reverse of the usual procedure, in which the evidence of reliability is presented, but the evidence of validity is lacking. It happens that in this instance the study of reliability is laborious and expensive, and further complicated by questions concerning the type of reliability evidence that should be accepted. Study of the reliability of the scales has therefore been postponed, to be dealt with in a later report.

Table II presents evidence concerning the agreement among the three scales. The correlations are in general very high, indicating that the three

TABLE II

Inter-correlations between study methods test scores obtained by using three different scoring keys.

Data from 214 students in Educational Psychology

Keys Correlated:	*Various Parts of the Test*					*Total*
	I	*II*	*III*	*IV*	*IV*	*Test*
Weighted key and Positive unit key	.94	.89	.89	.90	.89	.95
Weighted key and Negative unit key	.93	.85	.88	.92	.88	.93
Positive unit key and Negative unit key	.91	.70	.70	.85	.77	.87

scales measure much the same thing. One would expect the correlations to be high, of course, since the unit scales are really parts of the weighted scale, and the correlations of part with total should be high. The question, however, is one needing quantitative treatment, since one wants to know exactly how well the scores from the three scoring procedures agree with each other.

Perfect agreement is difficult or impossible to obtain. It would be desirable to have the measures of agreement as high as possible. The evidence in Table II, however, furnishes some support for the conclusion that, for practical purposes, the unit scoring scales may be used in place of the more cumbersome weighted scoring scales.

Table III presents evidence of the validity of the scales for predicting achievement in the course. The correlations may be compared with those reported in earlier studies (2, 4) in which it has been shown that intelligence tests yield correlations of about .40 to .45 with the same criterion measure

TABLE III

Validity Coefficients for Study Methods Test Scores Obtained by Means of Three Scoring Keys.

Data from 214 Students in Educational Psychology

	Various Parts of the Test					*Total*
	A	*B*	*C*	*D*	*E*	*Test*
Factors:	I	II	III	IV	IV	
No. of Items:	20	20	30	20	40	130
Scoring Keys						
Weighted Key	.32	.28	.12	.24	.39	.42
Positive Unit Key	.30	.27	.12	.24	.33	.41
Negative Unit Key	.33	.23	.13	.21	.36	.41

of achievement in the course. Experience has indicated that an intelligence test with verbal emphasis gives the best prediction of course achievement. The total score from the study test is a close second among the predictors so far used (2, 4).

Several facts emerge upon inspection of the details of Table III. It appears that the weighted key is very slightly better than the simplified keys, but the difference is so slight that it may be regarded as negligible. It is clear at once that some parts of the test are better than others for prediction of scholarship.

The differences are apparently partly due to variations in the numbers of items included in the several factor groups. The total test, with 130 items, yields the best prediction. The second Factor IV group, with 40 items, yields higher correlations with achievement than does the first Factor IV group with only 20 items.

The differences, however, are not all due to length of sub-sections, for the Factor I group with 20 items is better than the Factor II group with 20 items, and both yield higher correlations than the Factor III group which includes 30 items. The results, then, may be interpreted as showing that in prediction of achievement the study test items dealing with reported mechanics of study procedure (Factor III) are less effective than the items dealing with reported self-confidence and adjustment (Factor I), or those concerned with scholarly drives and values (Factor II), or those pertaining to system, planning, and effective use of time (Factor IV).

Discussion and Interpretation

The results presented above indicate that the simplified scoring keys may be substituted in place of the more complicated, weighted keys without serious loss. This is a significant gain in two ways. First, it increases the practical usability of the test. Secondly, it has theoretical consequences,

since it will make possible that extension of the test necessary for better diagnosis.

The interpretation of the varying results obtained by means of the several part-scores needs to be clarified by further research, since alternative explanations are possible at present. We may state two different hypotheses in possible explanation of the results in Table III.

The first hypothesis is this: The important determiners of effective study are revealed through questioning which emphasizes personal adjustment (Factor I), academic drives and values (Factor II), and planful use of time (Factor IV) rather than the mechanics of study (Factor III).

A second hypothetical explanation of the findings is this: Persons who have successfully completed two years of college have been highly selected for mastery of, at least insight into, the mechanics of study procedure. According to this hypothesis, the Factor III group of items should be much more useful with other groups, such as high school groups.

If the first hypothesis is true, or partially correct, then the meaning for counselors includes a troublesome fact. They cannot remain content to urge that pupils be taught how to study; they must, instead, be deeply concerned with much more difficult problems, including those involved in systematic use of time, the development of scholarly motives and values, and the inescapable problems of student adjustment It would be pleasant indeed if achievement could be effectively improved by simply teaching a good set of mechanical procedures for studying. However, it is not likely that this would lead to significant gains. There is apparently no royal road to scholarly achievement.

Summary, Conclusions, and Suggestions

A study methods inventory of 130 items was administered to a group of 214 students in Educational Psychology; using achievement in the course as a criterion, results were analyzed in order to study the validity of the total score and of five part scores. The results from the original weighted scoring scheme were compared with results obtained by two simplified scoring methods; this was done because the development of a reliable set of part scores seemed to require extension of the test, which in turn made simplification a practical necessity.

The results seem to justify the following specific conclusions and suggestions:

1. The simplified scoring keys may be substituted for the more complicated weighted key without significant loss of validity.

2. Results from the diagnostic scoring indicate that for prediction of achievement the least effective part of the test is that part consisting of questions about the mechanics of study.

3. Results suggest tentatively that the items most significant for prediction of scholarship are those concerned with personal adjustment, self-confidence, and morale in the academic setting (Factor I).

4. The second most useful group of items, for prediction of achievement, were those concerned with scholarly drives and values (Factor II).

5. The third best group of items, for prediction of achievement, are the items dealing with systematic approach to study, tendency to make effective use of time, and tendency to plan one's work carefully (Factor IV). (Here the reader's attention is called to the fact that the second Factor IV group of items appears better than the other groups because it contains twice as many items.)

At the present time one cannot be sure that conclusions two to five above apply more generally. It is possible that the analytic treatment has indicated the types of items that are most effective in general. It is, however, possible that the order of significance of the factors would be different for a group of subjects less mature, less selected for intellectual superiority, and less experienced in academic work. The results, therefore, raise questions to be settled in future research.

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Association Study Number 634 of the California Taxpayers' Association is titled "The Contra Costa Junior College District, a Report." This is a very comprehensive study of all phases of the District's operations. It makes use of data from Educational as well as financial sources. The report appears to be very comprehensive and to give a balanced picture of the District's program. The administration of the District, the California Taxpayers' Association, and the Contra Costa County Taxpayers' Association collaborated in obtaining the data for the report, which may be obtained from the California Taxpayers' Association, 750 Pacific Electric Building, Los Angeles 14.

Why They Think They Don't Read Well

DELWYN G. SCHUBERT

During the first week of the spring semester of 1954, forty college students who were enrolled in the Los Angeles State College Reading Clinic filled out a questionnaire which included the following query: What do you feel is responsible for your present reading difficulty? Eight students stated that they didn't know. An additional four gave answers which were of a miscellaneous and unclassifiable nature. The remaining twenty-eight gave answers which could be categorized in order of frequency as follows:

Lack of Basic Reading Skills. Replies were varied and included: "I have a habit of pronouncing each word mentally, syllable by syllable as I read. This slows me up and most of the time I forget what I read." "My difficulty is mainly that I try to read too fast and when I finish I don't know what I've read." "My reading vocabulary isn't large enough and I don't bother much with the dictionary." "I find myself always reading words and I just can't get myself to read phrases." "My trouble is that I read and spoke two other languages before I learned any English." "I know what I read usually, but I can't seem to cover the ground fast enough. Slow reading has held me back for years." There are so many words I don't know when I read that I sometimes miss the point."

Lack of Interest in Reading. Laziness was highlighted by one student when he said, "I hate to admit it but I think most of my trouble and lack of improvement have grown out of my being too lazy to read." Others spoke of having no time: "I am so busy doing my course work and holding down a job that I have no time to read for enjoyment." I have never found the time to read just for sheer pleasure." The remaining responses were: "It's always been true that I don't do any reading unless I have to." "I have trouble because I just can't concentrate on material which isn't interesting to me." "I think my trouble is that I haven't bothered to read for years and therefore have a hard time applying myself."

Emotional Disturbances. One student said, "I think I'm reading but when I stop to analyze the situation I find that my mind has been wandering off on some problem that's bothering me." Another put it this way, "When

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I'm pressed for time I get so upset I just want to cry. I just can't seem to do well on reading tests because of this." Others said: "I don't know why, but I get awfully nervous after reading for any length of time." "My big trouble is an inability to divorce myself from daily problems. Because of this I can't do a good job of concentrating on reading." "I always felt inferior as a reader. Now that I know I'm not any good I keep thinking that I'm dumb. It's almost an obsession."

Educational Inadequacies. These Factors are emphasezed by students who stated: "My father used to force me to read for long periods because he wanted me to be a good reader. It's because of this, I think, that I never did well at reading." "My earliest experiences in reading were painful ones. I don't believe I was ready to start reading in the first grade." "As I look back on my early schooling I know it was very poor. My teachers didn't do a good job of teaching reading." "My first grade teacher was a terrible person. She hated everybody—especially boys. I think my trouble is that I never liked reading because of this teacher."

Physical Difficulties. One student said, "After I read a little while my eyes begin to get dry and burn. Pretty soon I'm so drowsy I don't care about reading." Another stated, "Something is wrong with my eyes. They burn and smart when I read for any time." Other responses included: "I've had a number of illnesses the past two years that have just about exhausted me. I can't seem to do anything well any more." "I don't know what's wrong but I get a headache real often when I do any prolonged reading."

The preceding responses are indicative of the kinds of things poor college readers feel are responsible for their reading difficulties. Diagnostic and evaluative practices very often reveal that college students do have valid insights into their reading problems. Even when this is not true it is of inestimable value to the clinician to be aware of those things which students think are responsible for their dilemma.

Vocational Interests . . . *(Continued from page 21)*

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The Guilford-Zimmerman and the California Psychological Inventory in the Measurement of Teaching Candidates

J. C. Gowan and May Seagoe Gowan

The launching of a teacher selection and counseling service at the University of California, Los Angeles, brought as a by-product the scores of large numbers of candidates for teaching credentials and graduate degrees on the American Council Psychological Examination, Cooperative Reading Test, Allport Study of Values, and the Minnesota Multiphasic Personality Inventory (4). These tests are usually taken in the junior or senior year in the case of credential candidates, or the first graduate year in the case of degree candidates. This original group was in excess of 1700 cases, of whom about five-eighths were women.

This paper reports the scores of that part of the main sample who also took the California Psychological Inventory (CPI) and the Guilford-Zimmerman Temperament Survey (G-Z). A random sub-group numbering 415 subjects, of whom about two-thirds were women, took the CPI. A random sub-group of those taking the G-Z also took the CPI, numbering 337 subjects of whom about two-thirds were women. Correlations between scales of both the major group and the two sub-groups will be found elsewhere (2).

Norms for the CPI were based on results for 348 college students, half men and half women, furnished by Gough. Norms for the G-Z based on 912 college students were obtained from the Manual for the G-Z (3:7. In the case of scale T, the N is 252 only).

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The expenses of this study were borne in part by a research grant from the University of California. The authors are also indebted to Dr. Harrison Gough for permission to use and for scoring the CPI, and to Daphne Bugental, research assistant, for valuable help.

Table I gives the means and standard deviations of the norm and the UCLA groups on the California Psychological Inventory, together with critical ratios. Table II gives the same information for the Guilford-Zimmerman Temperament Survey. Analysis of the tables shows the teaching candidates differ significantly from college students in general in a number

TABLE I

Means and Standard Deviations of UCLA Teaching Candidates Compared with College Student Norms on the California Psychological Inventory with Mean Differences and Critical Ratios

	U.C.L.A. (N=415)		*College Norms (N=345)*		*Diff. between Means*	*S.E. of Diff.*	*Critical Ratio*
	Mean	*Sigma*	*Mean*	*Sigma*			
In	2.43	2.09	2.81	2.24	−0.38	.14	−2.71
Gi	22.01	6.21	17.23	5.98	4.78	.44	10.86
Ds	4.24	3.49	7.39	4.44	−3.15	.30	−10.50
Re	33.82	4.37	31.77	4.59	2.05	.33	6.21
To	26.84	3.75	23.71	4.42	3.13	.30	10.43
Fl	11.72	3.36	11.72	3.73	0.00	.26	0.00
St	23.40	3.37	21.16	3.72	2.24	.26	8.62
Do	30.88	5.09	27.50	6.15	3.38	.41	8.24
Sp	27.86	4.19	24.61	5.07	3.25	.33	9.85
Fe	20.47	4.22	19.73	3.24	0.74	.26	2.85
De	14.37	4.63	15.86	4.82	−1.49	.35	−4.26
Ie	43.30	3.89	40.24	4.79	3.06	.33	9.27
Ac	31.16	3.93	28.50	4.16	2.66	.30	8.87
Hr	23.27	3.40	21.32	3.96	1.95	.28	6.96
Py	12.84	2.89	11.72	2.72	1.12	.20	5.60
Ip	6.76	1.36	6.42	1.51	0.34	.26	1.31
Ne	11.65	1.91	12.66	2.20	−1.01	.14	−7.21
X_1	39.14	5.55	36.90	6.00	2.24	.41	5.46
X_2	16.87	6.63	20.54	7.16	−3.67	.51	−7.20

of ways. The CPI results show they seem more likely to give good impressions of themselves, but less likely to dissemble, more responsible and tolerant, of higher socio-economic status, more dominant, more socially participating, less delinquent, more intellectually efficient, having characteristics which would produce higher grades in high school and in college, more poised and less lacking in self-discipline than general college students. The G-Z results show they are more restrained, more ascendant, more social, more emotionally secure, more objective, more friendly, and higher in good personal relations than general college students.

TABLE II

Means and Standard Deviations of UCLA Teaching Candidates Compared with College Student Norms on the Guilford Zimmerman Temperament Survey, with Mean Differences and Critical Ratios

	U.C.L.A. (N = 337)		*College Norms (N = 912)*		*Diff. between*	*S.E. of*	*Critical*
	Mean	*Sigma*	*Mean*	*Sigma*	*Means*	*Diff.*	*Ratio*
G	17.04	5.30	17.0	5.46	0.0	.33	0.00
R	17.99	4.40	16.4	4.89	1.6	.30	5.33
A	16.76	5.28	15.0	5.82	1.8	.35	5.14
S	22.21	5.33	18.8	6.56	3.4	.36	9.44
E	22.01	4.80	16.3	6.02	5.7	.33	17.27
O	21.46	4.68	17.4	5.18	4.1	.32	12.81
F	18.35	5.33	14.6	5.06	3.8	.33	11.50
T	17.77	4.93	18.2	4.90	–0.4	.40	–1.00
P	21.58	5.39	17.1	5.00	4.5	.35	12.86
M	15.15	5.72	16.1	6.05	–1.0	.37	–2.70

It is interesting that the highest critical ratios are in the areas of having better impression of self, less dissembling, more tolerant, more socially participating, more emotionally secure, more objective, more friendly, and better personal relations. These scales are those which correlate highest with a measure of teaching prognosis developed for the Minnesota Multiphasic Inventory and reported elsewhere (1).

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Supplements 1 and 2 of Bulletin II, "Research Relating to Children, an inventory of studies in progress," are now available from the U. S. Department of Health, Education, and Welfare. These relate to ongoing research concerned with all phases of childhood, children's problems, growth and development, and so on. Supplement 2 contains reports on masters' theses only. The information in these documents is not for general publication but is available to all qualified researchers who wish to see what is going on.

Parent Need for Education and Help with Family Life Problems

Clara Buckland Hale

Statistics regarding delinquency, divorce, and mental ill health, reflect among other causative factors, socially ineffective parents. Much personal unhappiness is rooted in family living. As one effort to lessen these problems, parent education has been offered for over forty years, formally as part of the public school program, and informally by other social agencies. Many parents are yet untouched, and some of those who participate find it difficult to implement the general teachings they receive in specific family situations. To attract the untouched and to help all parents who feel they need help, is a major educational problem.

Procedure

As a part of a recent study of the areas of parent need which might be met through public school programs of parent education, 145 parents from "average, normal, successful," families, of varying social, economic, and educational backgrounds from four communities were asked to identify those family life problems with which they felt they needed education and help. Some families had only secondary school age children, some only elementary school age children, others had children of both school ages.

An impersonal approach through a rating sheet checklist of 29 common family life problems and a questionnaire of 7 open-ended questions was used with the parents in three communities. The parents in the fourth community who accepted the invitation to participate in the study, were given counseling appointments of approximately an hour in length, which were semi-structured around the questions on the questionnaire. Later, each of these parents checked the rating sheet of family life problems.

Findings

When asked, "What problem in your family gives you the most concern?" the parents identified several among many. Problems were identified

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at an average rate of 2.6 problems per respondent. For the counseled parents, the average was 4.86; for the uncounseled parents, 1.21. The general pattern of problem categories were found to be similar for each method of eliciting parent response. (Figure 1)

It was found that the identified problems were primarily of a personal nature, involving parent-parent and/or parent-child relationships and personality adjustment problems of various family members. (Table I) The parents in each sub-group identified fewer problems with the school, with family finances, and with general problems of homemaking. For the counseled parents, these represented only 12.24 per cent of problems; for the uncounseled parents, 29.12 per cent. (Table II)

The rather frequently defined problems of undesirable companions, sex and dating, smoking and drinking, were identified 32 times by the ninety parents of secondary school age children. Interestingly, these same parents indicated concern with the problems of personality development and adjustment, and their need to understand them better, 111 times. Several parents referred to the problem of withdrawing behavior on the part of the child. These children were causing their parents concern because they were refusing to participate in school and social activities, or in the home fellowship. Other parents reported children who were feigning illness, or lengthening unduly their convalescence from some real illness.

Children who seemed to feel that they were unwanted in the family, or were sure their peers were trying to do them social harm, concerned several parents. Among other problems identified were sibling rivalry, lack of initiative, too much and too little drive to achieve, a tendency toward being a perfectionist, and moodiness.

Among the problems which parents identified as their own personal ones, or those of the other parent, were a tendency to be demanding, dictatorial, inconsistent in behavior, and to act indecisively. Anger, aggressiveness, jealousy, passivity, and temper displays were described separately or in combination by several parents. Many parents reported little fellowship or shared fun in the home.

By checking the rating sheet of common family life problems, approximately 60 per cent of the parents indicated that they felt they needed help with their own sense of insecurity. Approximately 50 per cent checked the items of personal disagreements with the other parent, disagreements about methods of child rearing, and trying to adjust to what others think of them, as problems with which they felt they needed help. Approximately 33 per cent felt they needed education and help about their sexual adjustment problems; while 26 per cent indicated a lack of faith in the other parent and boredom with their marriage as problems in the family. These responses are particularly significant in relation to expert opinion concerning the influence of the emotional climate of the home on the development of the personality of the child in the home.

TABLE I

Number of Problems of Major Concern in Each Category as Identifield by Parents

Problems	Group Classification: Prof. & Managerial (13)	Labor (34)	College (11)	H.S. & J.C. (46)	Counseled (57)	Uncounseled (85)
I Problems of Maturing	37	99	31	105	136	33
II School Problems	3	9	3	9	12	4
III Problems of Finance	1	3	4	0	4	13
IV Personal Problems	32	59	32	59	91	33
V Marital Problems	3	11	2	12	14	7
VI Gen. Home-Management	9	11	4	16	20	13

Data from answers to Question 1 on questionnaire and in counseling-interview.

TABLE II

Number and Per Cent of Identified Problems Falling in Certain Categories

Problems	Group Classification: Prof. & Managerial No.	%*	Labor No.	%*	College No.	%*	H.S. & J.C. No.	%*	Counseled No.	%*	Uncounseled No.	%*
Problems in Category I	37	45.9	99	51.6	31	40.8	105	52.2	136	49.1	33	32.0
Problems in Category IV	32	37.8	59	30.7	32	42.1	59	29.3	91	32.9	35	34.0
All Problems in Categories I, IV, V	72	84.7	169	88.0	65	85.5	176	87.6	241	87.8	73	70.9
All Problems in Categories II, III, VI	13	15.3	23	12.0	11	14.5	25	12.4	36	12.2	30	29.1
Total number of problems identified	85	100.0	192	100.0	76	100.0	201	100.0	277	100.0	103	100.0

* Per Cents are those that problems mentioned are of total problems identified by the given sub-group of parents.

Conclusions

From the findings of this study, it was concluded that there is a definite need for further development of parent education and for the institution of parent counseling services, which would be available to more parents and offer more attractive and effective help than is often now available through more traditional programs. Since the public school is found in all communities, can serve all families, is supported by parent tax dollars, is without social stigma to those who participate in its programs and services, and is by its philosophy committed to strengthening the American home, it seems the logical source of education and help for those parents who want to do a more effective job of rearing future citizens and parents who will be reasonably happy and well adjusted, and for parents who would like to learn better ways of living together in families so that the immediate family situation might be a happier experience for each member.

Such services might be initiated in a community in one of several ways: as a supplement to traditional parent education courses in Adult Education, as one of the services of the community's junior college, as a part of the counseling program or as a part of a parenthood training center which could be planned to give the community a whole life cycle of family life training, or as a part of the regular counseling service in the secondary or elementary school.

Three methods of approach might be used. Much can be accomplished through the regular parent education class or parent workshop, particularly if it is primarily parent-centered. Small group therapy is useful for more critical, though frequently ill-defined family life problems, particularly where there are attitudinal problems, and for personal adjustment problems. Probably the most fruitful technique for helping parents see the relation between principle and practice is general individual counseling with a qualified teacher-counselor. While giving support and encouragement to the further development of the first two methods of parent education, serious consideration should be given to developing a program of parent counseling in which a parent counselor would be available to parents of the children in a school just as the student counselor is now in most secondary schools and in many elementary schools.

Such a program would probably tend to attract the parent who does not now see personal value in present parent education efforts. It could better assist those interested parents who find it difficult to implement the teachings which they now receive through our traditional programs. By thus strengthening the home and increasing parent adequacy, teachers might be relieved of many social-parent duties which now take time from other phases of teaching. If parents could have easily available assistance which could help them better meet their own personal problems, they would

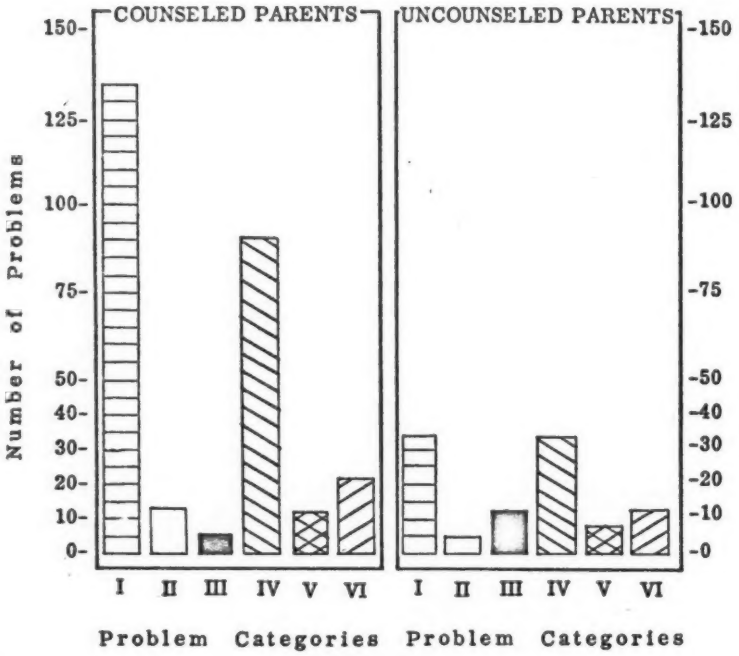

FIGURE I

Distribution of Problem Responses by Categories

probably have more psysic energy with which to build closer home relationships and provide happier environments in which their children could grow to be more socially adequate citizens. Such assistance could help parents obviate some of the conditions in which problems of a private and specific nature develop, before they become personal and social problems of public concern.

All of the parents who participated in this study indicated that they desired professional help with their problems, rather than casual help from relatives or friends. Individual counseling was rated as the most desirable type of help by the counseled parents, by the uncounseled group, and by the members of each sub-group. (Figure 2)

Parent and family life education and counseling are not suggested as the total answer to various aspects of social irregularity, but programs of

optimum efficiency would surely ameliorate many of the circumstances in which such problems breed. In spite of many programs and many services of interested agencies, statistics continue to reveal evidence of much social and personal disorganization. Since the home and the public school are the common factors in the lives of most Americans, it seems that these two agencies working together effectively could find answers to many of these problems.

Among reasons which parents give to parent education leaders for not participating in the traditional parent education program are those which indicate that they feel anxious and confused about what they have been

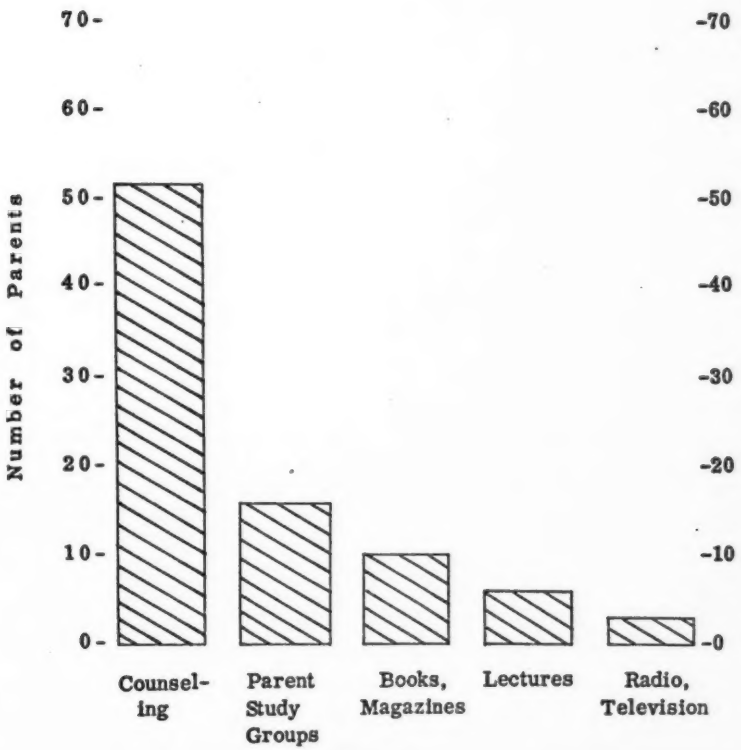

FIGURE 2

Weighted Rank Order of First Choices of Parent Education Aids As Indicated by Members of Total Group of Seventy Parents

doing and unsure about how to do what they have been told they should do. Many parents know what they should do, but find that they more often act as they feel.

An individual counseling service could give such parents aid in making this transition from knowledge they may have, to use of that knowledge for the improvement of personal and family living. Such a program could assist the parent to accept emotionally what he knows intellectually, and thus help to make him more free to act upon principle, and to apply his knowledge in a way to better meet his family's need.

There are probably no "families-in-general." Yet it is necessary through most teaching media, to teach in general. Information given through lectures, reading material, and other group methods, is public, general, factual, impersonal, and often indefinite. The problems whih parents bring to parent education meetings are more often private, of unique quality, rooted in emotional reaction, personal, and quite specific. This is one explanation why there is frequently a discrepancy between facts given to a parent, and the help which the parent actually needs, wants, and should have in learning how to deal better with his family problem. It is in this area that parent counseling could contribute much to making other aspects of parent education more functional and to cementing home-school relations.

The findings of this study also have strong implications for teacher training in this very important field, and for the advanced training of counseling specialists in family life problems. Through curriculum revision at the various public school levels, training for parenthood and home living could become more effective in the lives of the students and in the life of the community.

Research in education is not being confined to the United States. One interesting foreign program is that being carried on by the Scottish Council for Research in Education. Its Twenty-Sixth Annual Report shows that the Council is operating on a budget of about twenty thousand dollars per year in such fields as mental testing, survey of academic achievement, development of criteria of achievement in elementary subjects, and preparation of new curricula based on pupils' interests. The Council has published thirty-seven monographs and reports.

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"Arithmetic and Curriculum Organization" is the title of the third monograph on the teaching of arithmetic published by the Bureau of School Service of the School of Education of Syracuse University.

Book Reviews

STAFF PERSONNEL IN THE PUBLIC SCHOOLS

Willard S. Elsbree and E. Edmund Reutter, Jr. New York: Prentice-Hall, Incorporated, 1954. 438 pp.

This excellent book covers the entire field of personnel relations and personnel problems. It covers certain matters, such as recruitment, certification, retirement, and professional associations, which are not always considered as part of personnel practices. However, this breadth of coverage in no way prevents its doing a very thorough job in the usual fields of selection, assignment, salaries, leaves, tenure, morale, academic freedom, ethics, and the legal status of staff personnel.

The authors make wide use of recent developments in National Education Association and in State association policies and procedures in connection with personnel policies. The book is clearly based upon the premise that the status of education as a whole is intimately bound up with the individual status of the staff members of school systems. In addition to being an excellent text for the use of beginners in the profession, it would appear to be a very good book for teachers and administrators to use to get a comprehensive and up-to-date picture of modern trends toward the professionalization of education.

HELPING HIGH-SCHOOL STUDENTS READ BETTER

Elizabeth A. Simpson. Chicago: Science Research Associates, 1954. 146 pages.

This book is a useful compilation of recent thinking and practice in secondary-school reading programs. The concrete examples given in Part II are good. The bibliography at the end is good.

On the other hand, the question and answer format tends to make the author's statements seem more authoritative than they really are. Also, the overly simplified style may strike some as writing down to the members of the profession. On the whole, this may be called a typical SRA product bearing some of the stigmata of the industrial origin of the organization.

If used with caution, this book should be very useful for beginning teachers, and for older teachers who have got out of touch with modern ideas concerning reading programs in secondary schools. It is not recommended for those who have had basic training in modern teaching methods; though they might find it useful as a reference to give parents and other lay persons interested in getting an over-all picture of the reading program in high schools.

THE PREDICTION OF STUDENT-TEACHER SUCCESS FROM PERSONALITY INVENTORIES

Fred T. Tyler. Berkeley: University of California Press, 1954. 81 pages.

This booklet constitutes Volume 11, Number 4, of University of California Publications in Education. The material was obtained by comparing the ratings given student teachers in the general-secondary credential program at the University of California, Berkeley, by their supervisors with their scores on three personality tests. These were the Minnesota Multiphasic Personality Inventory, the Heston Personal Adjustment Inventory, and the Johnson Temperamental Analysis. The data obtained were subjected to very complete statistical analysis.

Although some evidence was found to indicate that some of the factors measured by personality inventories are significantly different between the best and worst groups of student teachers, the results of the study were essentially negative. The author concludes that, "The time has come when minor research in problems of teacher selection is not likely to contribute significantly to the present state of knowledge in this field." He makes several suggestions for an adequate attack on the problem.

In his "Ex Post Facto" section the author also suggests that the criteria used in determining the success of student teachers—namely, their rating in various aspects of their work as determined by their supervisors—were not necessarily valid. He concludes, "There seems little justification for further production studies until the reliability of the criteria has been established."

NEEDED RESEARCH IN TEACHER EDUCATION

Roben J. Maaske, Editor. Oneonta, N. Y.: American Association of Colleges for Teacher Education, 1954. 62 pages.

This book is the report of the Joint Committee of the American Association of Colleges for Teacher Education and the American Educational Research Association. In addition to Dr. Maaske, the members of the Committee were G. Lester Anderson, E. Earl Armstrong, Arvil S. Barr, and Max R. Goodson.

The report begins by acknowledging the existence of abundant research in teacher education and indicating the need for a comprehensive summary and synthesis of this existing material. However, the report goes on to state that existing research has the following serious shortcomings, among others:

"(1) Overuse of the survey type of research with inadequate evaluation of its facts and findings.

"(2) The studies have frequently been restricted to small, heterogeneous, or unrepresentative samples with limited general significance.

"(3) Too few carefully controlled experimental studies.

"(4) Inadequacy of documentary research, particularly in the areas of the history and philosophy of teacher education.

"(5) Failure to evaluate and apply promising experiments for the improvement of teacher education.

"(6) Failure to employ a longitudinal approach to problems.

"(7) Naive statistical design and analysis in many researchers."

In general, the authors conclude, "The pressing need in teacher education is for research that deals with fundamental problems and issues and that evaluates 'principles in operation' rather than surveys of current practices, that recognizes and is explicit about the assumptions which are made, and that reaches conclusions which have generalized validity."

The report then considers the whole field of teacher education under five areas or divisions. These are in turn divided into from four to six subsections. Each of these is briefly described and evaluated and then a list of specific research study titles is given. The least number of titles given for any subsection is twelve and the largest is 41.

This report would seem to be a necessary part of the equipment of any educator interested in teacher education. It is an obvious "must" for any student of that aspect of education.

METHODS OF RESEARCH, Educational, Psychological, Sociological

Carter V. Good and Douglas E. Scates. New York: Appleton-Century Crofts, Inc. 1954. 920 pages.

The first chapter of this book is titled, "Research as a Way of Progress." This concept unifies the whole work. After the initial discussion of research in general, the authors devote the second chapter to a discussion of ways of developing research problems and programming research work.

Chapters III to IX are concerned with the traditional types of research methods, but the treatment is quite fundamental. Much emphasis is placed upon the underlying assumptions necessarily implied by the use of one of the classical research methods.

The last chapter of the book, "The Reporting and Implementing Research," forms a fitting and very practical conclusion.

This publication seems to be a worthy successor to earlier books educational research with which the authors were connected. It may too much to call it the book on educational research, but it most certain belongs high on the list of valuable writings on the field.

Swimming Pools for Schools by Donald W. Neilson and John E. Nixon is Educational Administration Monograph Number 3 of the School of Education of Stanford University. It is based on studies conducted in connection with the Stanford School Planning Laboratory. Several architects, health officers, and other technical experts collaborated in the studies. The first two chapters review the necessity for swimming instruction and the problems of organizing swimming programs in the schools. The next two deal with design, specifications, and care of pools. The last chapter is concerned with health and legal requirements relating to pools.

The monograph is well written and profusely illustrated. Because it is based on a careful study of building and health problems as well as educational ones, it should be very valuable to any administrator contemplating the construction or reconstruction of swimming facilities in his district. Although it is thorough and often technical it is written so that it can be of use to interested board members and other lay citizens as well as to administrators. (Stanford University Press, 1954, 43 pages.)

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Occasional Papers Numbers 37 and 38 of the University of Illinois Library School should be of interest to educators as well as librarians. Number 37 deals with library internships as a means of training librarians. Number 38 concerns the counselor librarianship, a new type of librarian position involved in the replacement of the traditional reference department with a more useful one specifically designed to "carry out as many as possible of the Library's objectives of general education, library instruction, counseling, reference and readers' advisory service." This new department is staffed by counselor librarians rather than by reference librarians.

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The Thirty-Third Yearbook of the Department of Elementary School Principals of the NEA is concerned with guidance. Among the contributors are the following California educators: E. Leo Waian, Burbank; Harry L. Buckalew, Fresno; Helen Heffernan, State Department of Education; Edson Caldwell, Sacramento State College; Donald G. Anderson, Eva M. Ott, H. Ismay Tobin, and Marion H. Clark, all of Oakland; Pauline Snedden Sears, Stanford University; and Louise Weller, San Diego.

CERA ANNUAL CONFERENCE

The California Educational Research Association will hold its 33rd Annual Conference at Sonoma Mission Inn, March 18 and 19, 1955.

The program committee welcomes research papers to be read at this conference. Brief descriptions of the papers should be sent to Dr. Edward A. Taylor, 420 Broadway, Room 200, Oakland 7, California. Further information regarding papers, programming and conference reservations may be obtained by writing Dr. Taylor.